MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2015 / 2016

TSA 2131 – SYSTEM ANALYSIS AND DESIGN

(All sections / Groups)

06 OCTOBER 2015
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages including the cover page.
2. Attempt **SIX** questions out of **SEVEN** questions. The distribution of the marks for each question is given.
3. Please print all your answers in the Answer Booklet provided.

QUESTION 1

(a) List down and explain the **FIVE** phases in the evolutionary model of System Development Life Cycle (SDLC).

(5 marks)

(b) If the customers can actively involve in the project developments, which SDLC methodologies are suitable to be used? Determine any **THREE** and explain your choice.

(3 marks)

(c) Consider a project as follows. Small project scope, short duration with very little customers feedback and there are only a few motivated programmers available. Determine and explain which SDLC methodology is suitable for the project.

(2 marks)

QUESTION 2

(a) Compare and contrast between the Agile Methodology and the Traditional SDLC Methodology.

(4 marks)

(b) Provide **TWO** advantages and **TWO** disadvantages of using Cloud Computing as a source of software.

(2 marks)

(c) There are eight factors to be considered in selecting Off-the-Shelf Software. Name and explain any **FOUR** factors.

(4 marks)

QUESTION 3

(a) List two organizational factors influence implementation success?

(2 marks)

(b) In the Project Management Process, we need to estimate the time taken to complete each task, as well as finding the critical path in the project.

(i) The dependencies between the tasks in Project GETA as depicted in Table 1. Use network diagram to calculate the earliest possible completion time for each activity.

Continued .....

Table 1. Sequence of Activities within Project GETA with Expected Time

Activity	Expected Time	Preceding Activity
1. Requirement Collection	5	-
2. Screen Design	6	1
3. Report Design	4	1
4. Database Design	2	2,3
5. Programming	5	2,3,4
6. User Documentation	4	5
7. Testing	3	6
8. Installation	1	5,7

(4 marks)

(ii) Determine the critical path in Project GETA by calculating the latest possible completion time for each activity.

(4 marks)

QUESTION 4

(a) What is balancing? How can you determine if a set of DFDs are not balanced?

(3 marks)

(b) Develop a context diagram for the job hiring system described in the following narrative.

Respective department manager notify the personnel manager when job opens and list the characteristics necessary to be eligible for the job. The personnel manager compares the qualifications of the available pool of applicants with the characteristics of an open job and then schedules interviews between the manager in charge of the open position and the three best candidates from the pool. After receiving evaluations on each interview from the manager, the personnel manager makes the hiring decision based on the evaluations and applications of the candidates and the characteristics of the job and then notifies the interviewees and the manager about the decision. Applications of rejected applicants are retained for one year, after which time the application is purged. When hired, a new engineer completes a nondisclosure agreement, which is filed with other information about the employee.

(5 marks)

(c) Contrast data modeling to process modeling and logic modeling.

(2 marks)

Continued .....

QUESTION 5

(a) Assuming monetary benefits of an information system at RM 60,000 per year, one-time cost of RM50,000, recurring cost of RM 25,000 per year, a discount rate of 10%, and a three-year time horizon.

(i) Calculate the Net Present Value of these costs and benefits of an information system. (3 marks)

(ii) Find the point of breakeven. (3 marks)

(b) List and explain any **TWO** project risk factors. (2 marks)

(c) Reuse is the use of previously written software resources and it is expected to save cost for new projects. However, if a reuse solution is designed for 5 projects, extra 125% cost and 150% time are needed. Explain why the expected cost saving does not occur.

(2 marks)

QUESTION 6

(a) Compare and contrast of the following terms:

(i) Subtype; supertype

(ii) Total specialization rule; partial specialization rule:

(iii) Disjoint rule; overlap rule:

(6 marks)

(b) What is the relationship between System Development Life Cycle (SDLC) and Database Life Cycle (DBLC)? Highlight the important points of planning activities in the DBLC.

(4 marks)

QUESTION 7

(a) Describe the types of system feedback. Is any form of feedback more important that the others? Why or why not?

(4 marks)

(b) How Nominal Group Technique can be applied for requirements determination?

(3 marks)

(c) Briefly describe **THREE** limitation of conventional file server?

(3 marks)

End of Paper